



IFPS Science Steering Team



IFPS Methodology Workshop

April 2004

Presented by Bill Ward (PRHQ)

http://www.nws.noaa.gov/ost/ifps_sst/





Goals



- Introduce the ISST
- Outline recent activities and accomplishments
- List current activities
- Provide a roadmap of ISST future near term activities

WHAT IS THE ISST ?

- IFPS Science Steering Team
- **Composed of field experts chartered to identify and prioritize ongoing IFPS science issues**
- Reports to S&T Committee of the Corporate Board (Jack Hayes chairs this committee)
 - *A formal conduit between field personnel and NWSH*
- First assembled early 2003

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Team Members

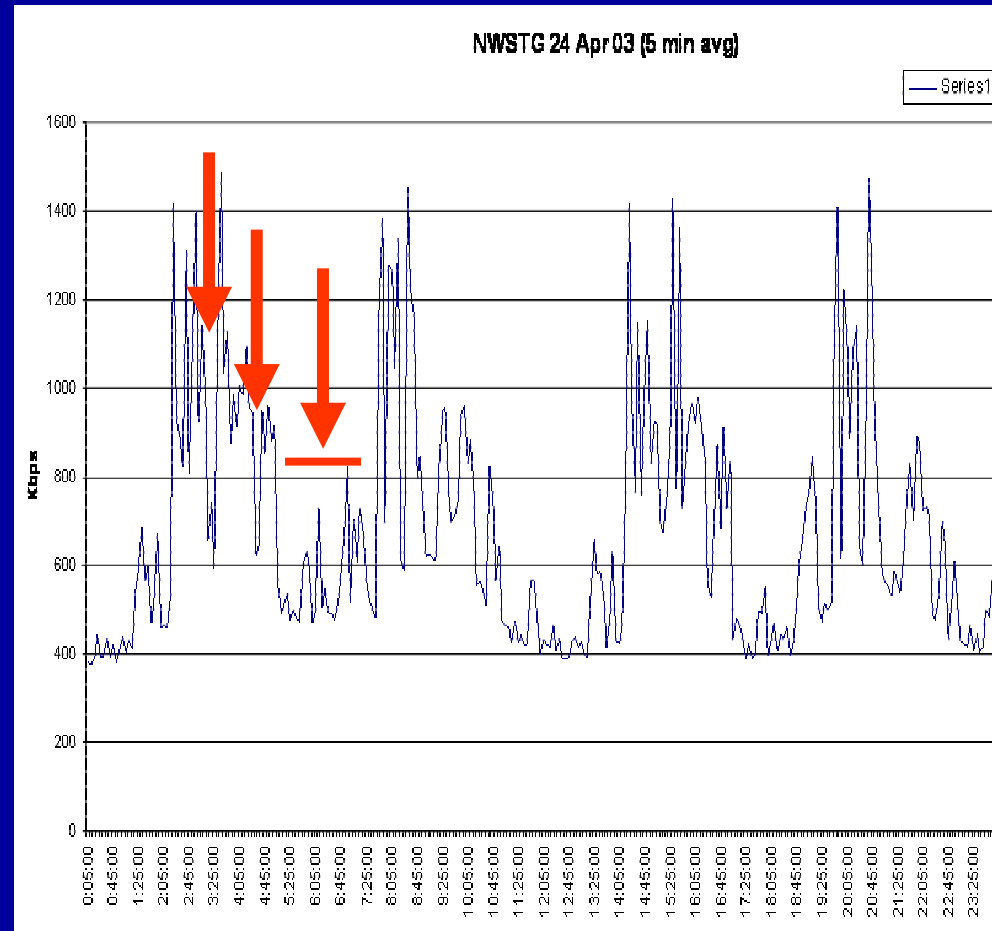
- Pacific Region: *Bill Ward (PRHQ)*
- Alaska Region: *Eric Stevens (WFO Fairbanks)*
- Western Region: *Brad Colman (WFO Seattle - team leader) and Mark Jackson (WFO Salt Lake City)*
- Southern Region: *Andy Patrick (WFO Corpus Christi)*
- Central Region: *Dan Baumgardt (WFO LaCrosse)*
- Eastern Region: *Steve Keighton (WFO Blacksburg)*
- NCEP: *Peter Manousos (HPC – backup team leader)*
- NWSHQ: *Kevin Schrab (OST - facilitator)*

WHAT KIND OF ISSUES DOES ISST TACKLE?

- Development of a National real-time, gridded verification system
- Availability of full-resolution NCEP model grids to GFE
- Objectively produced bias-corrected model grids in GFE
- Methods to implement objectively downscaled forecast grids
- Incorporation of climatologic grids into the GFE process
- Delivery of short and medium-range ensemble grids to GFE
- Modification of GFE software to ingest real-time data
- Optimization of forecaster expertise in gridded forecast process

Recent ISST Accomplishments

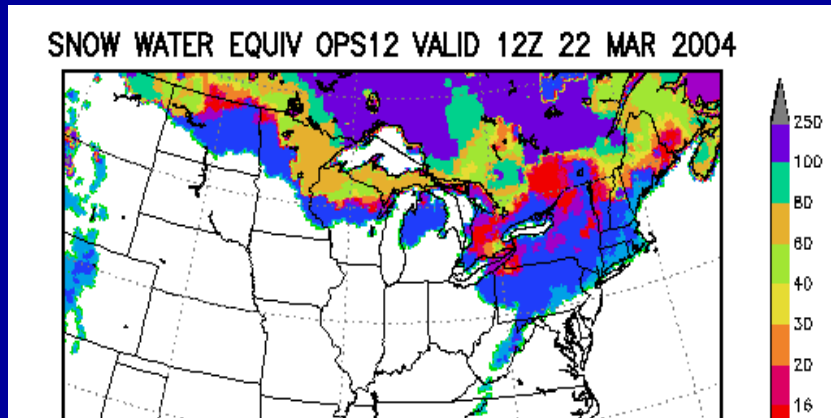
- Identified opportunity to fill SBN "transmission gaps" with transmission of Eta surface and BL fields
- Conceived, developed, and championed the Downscaled GFS with Eta Extension (DGEX)
- Worked with MDL on their efforts to develop COOP MOS (now in GFE) and gridded MOS
 - *Number of MOS sites increased by a factor of 3*



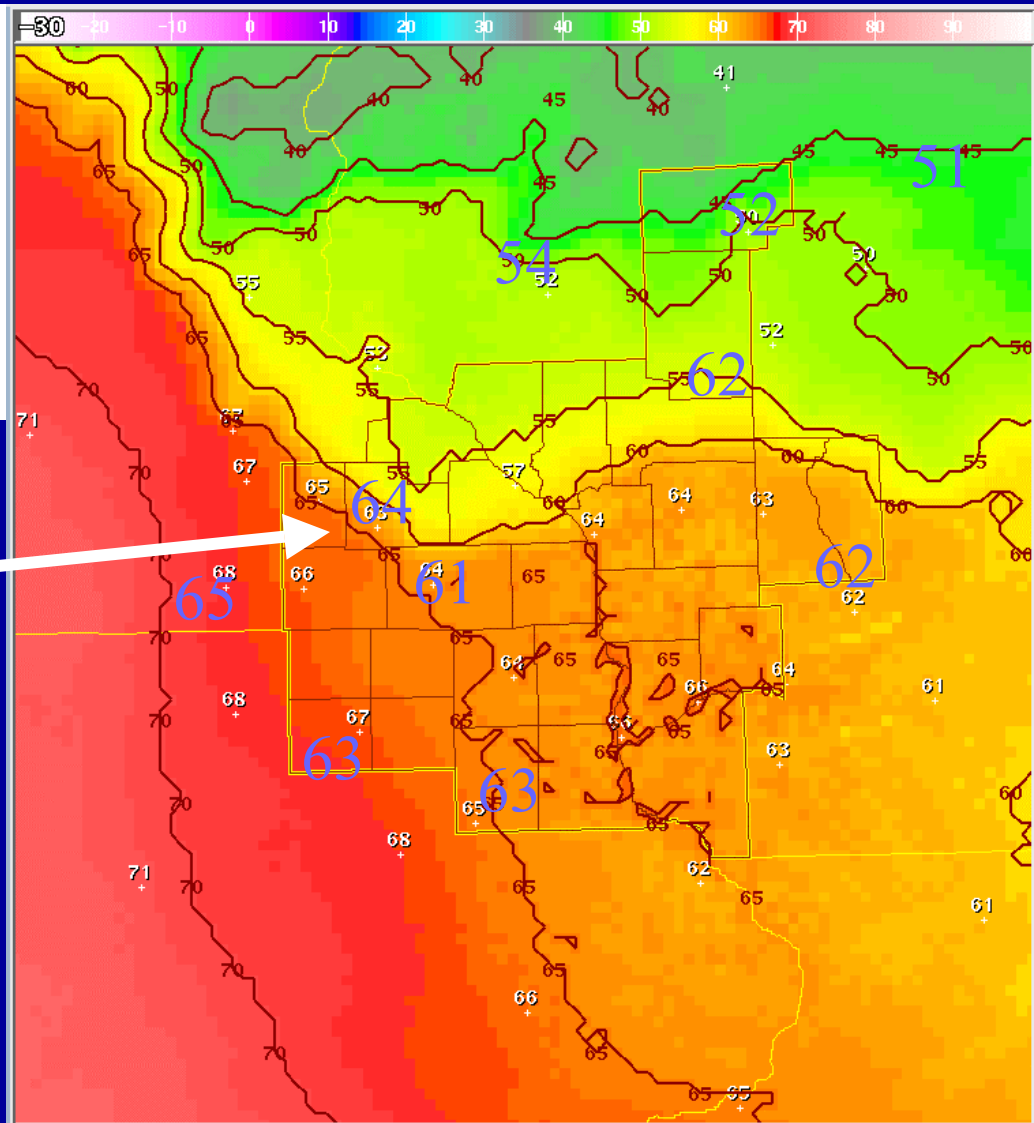
ISST Current Issues

- Seeing DGEX through evaluation period to operational production
 - *Mid April: convergence of Eta runs complete and Eta extension running operationally*
 - *Late May: DVB-S efforts free up SBN bandwidth*
 - *June: OB3.2 upgrade to AWIPS configuration*
 - *June: Eta extension operational via SBN using GRIB2*
- NVIWT Verification Plan
- Assist getting real time data into GFE (satellite/radar)

DGEX has Eta Attitude!

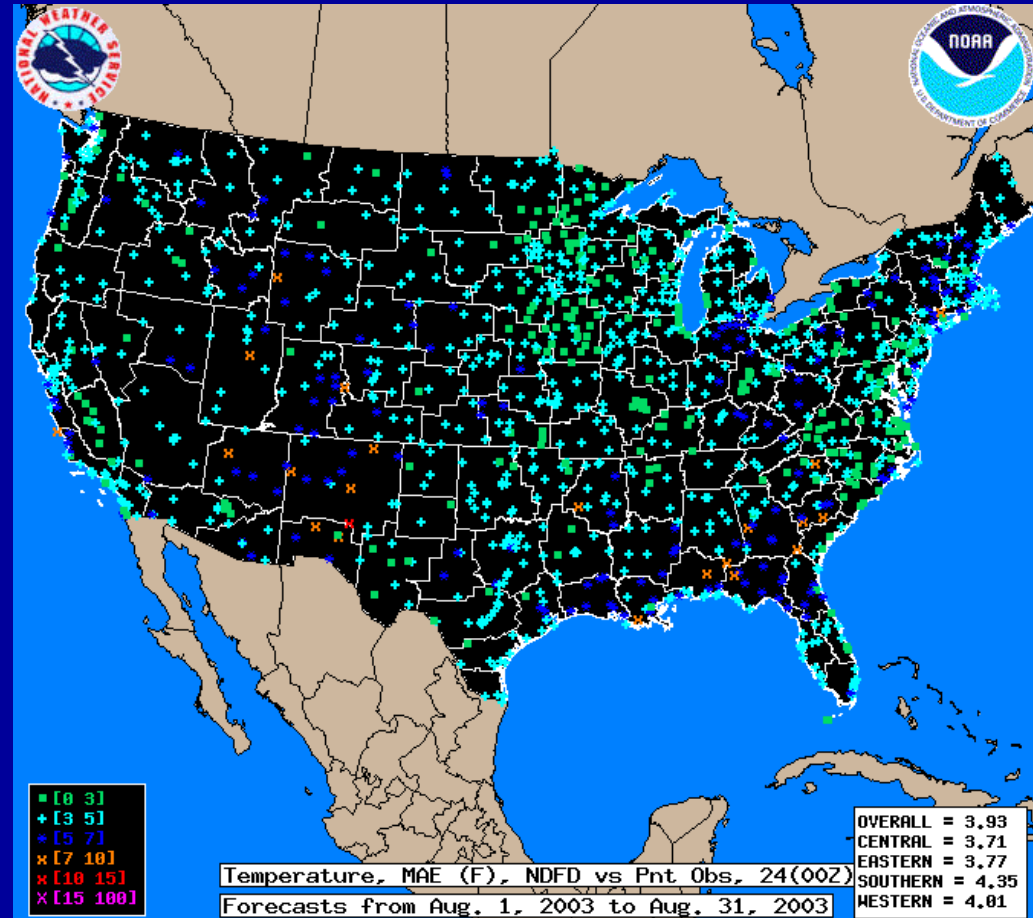


Eta snow cover reflected in the
Day 4 MaxT grid



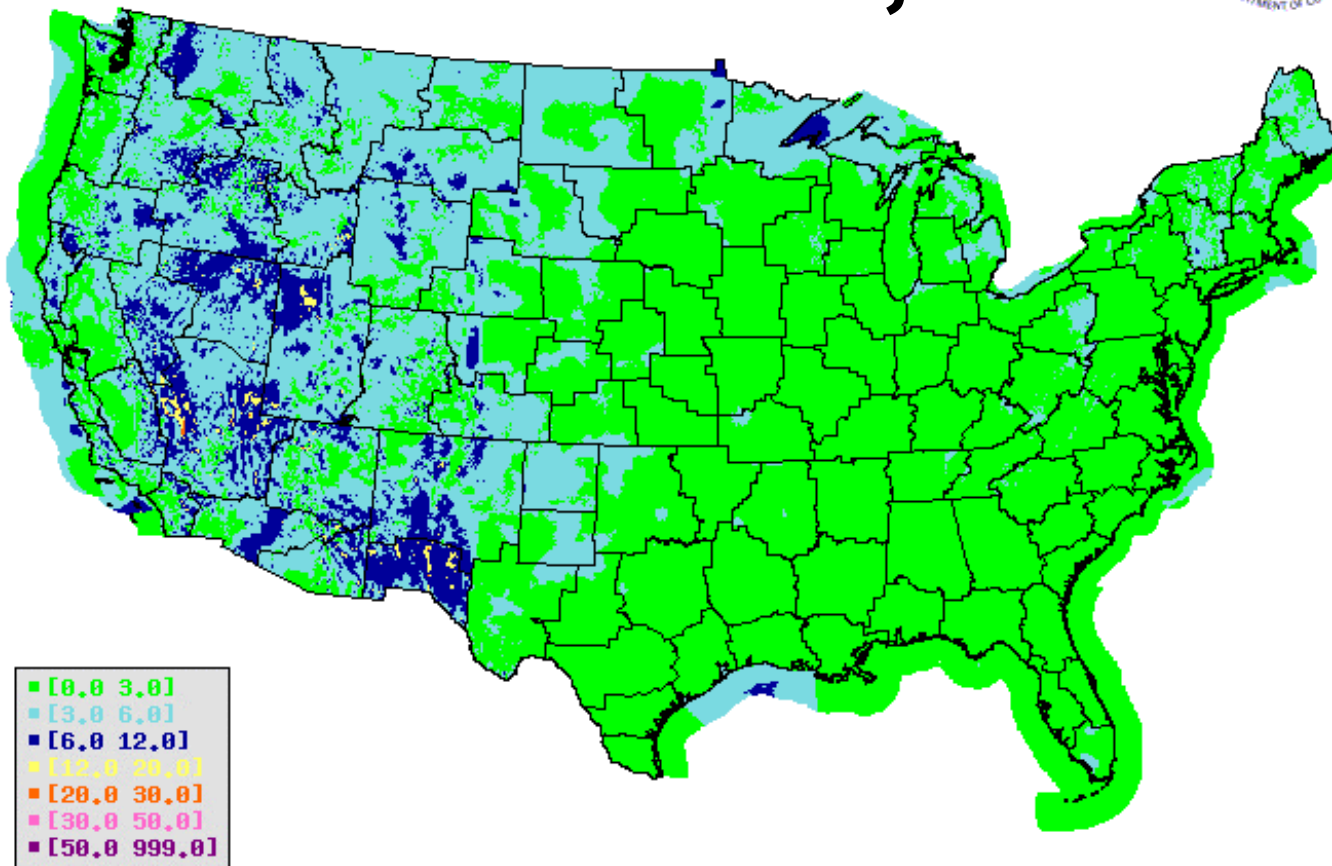
Verification and Analysis of Record

- *Reviewing Verification Plan (point vs. grid)*
- *Initial discussion on how to get ball rolling*





Maximum Temperature MAE for 24 hr, 12Z



MAE, Surface Temperature vs RUC Analysis, 12Z 024 hr

Forecast Period: 8/1/03 - 8/31/03

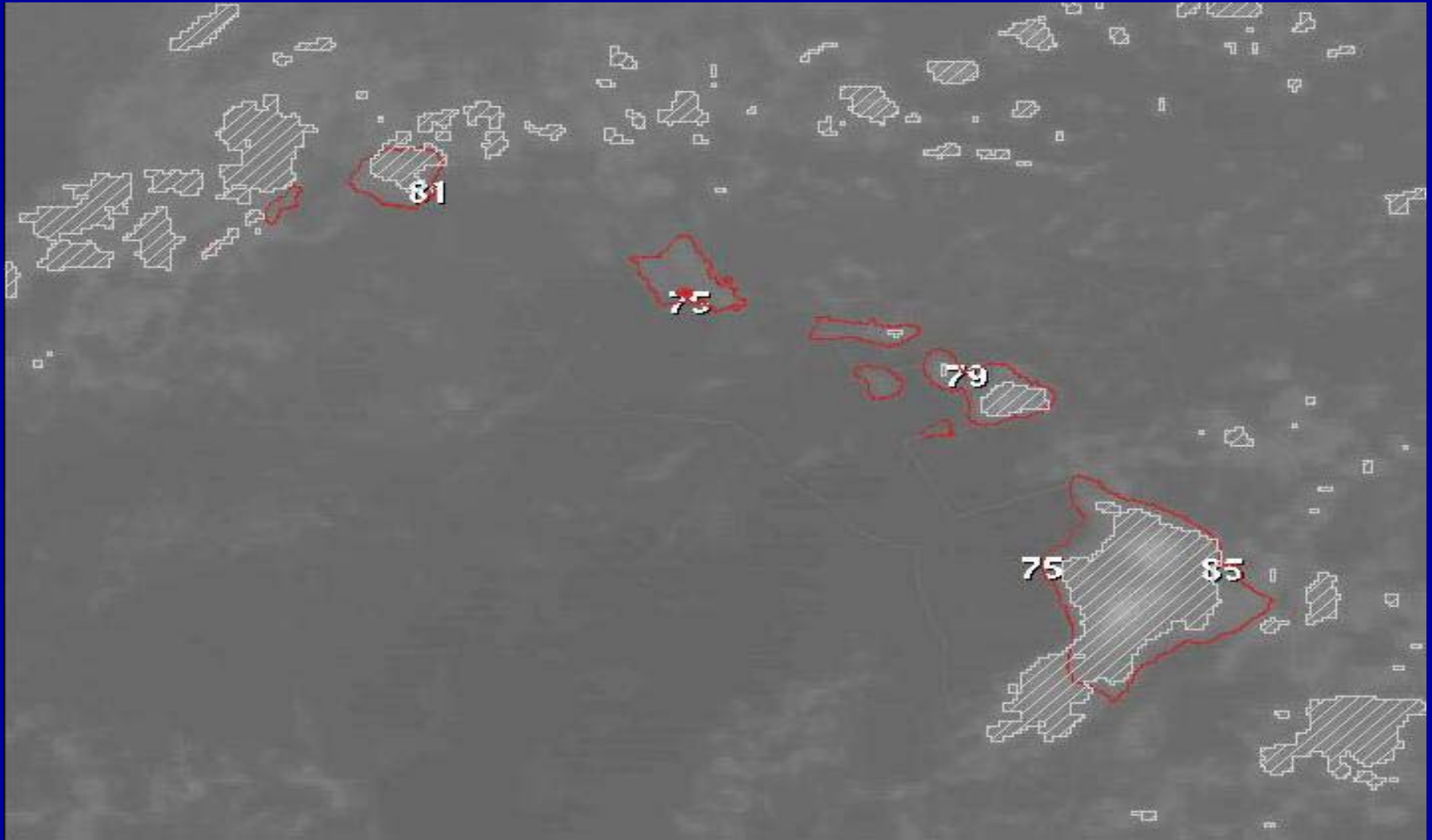
VERSUS RUC : 20 km grid

Early results from MDL's gridded verification

Factors Impacting the Digital Forecast Process

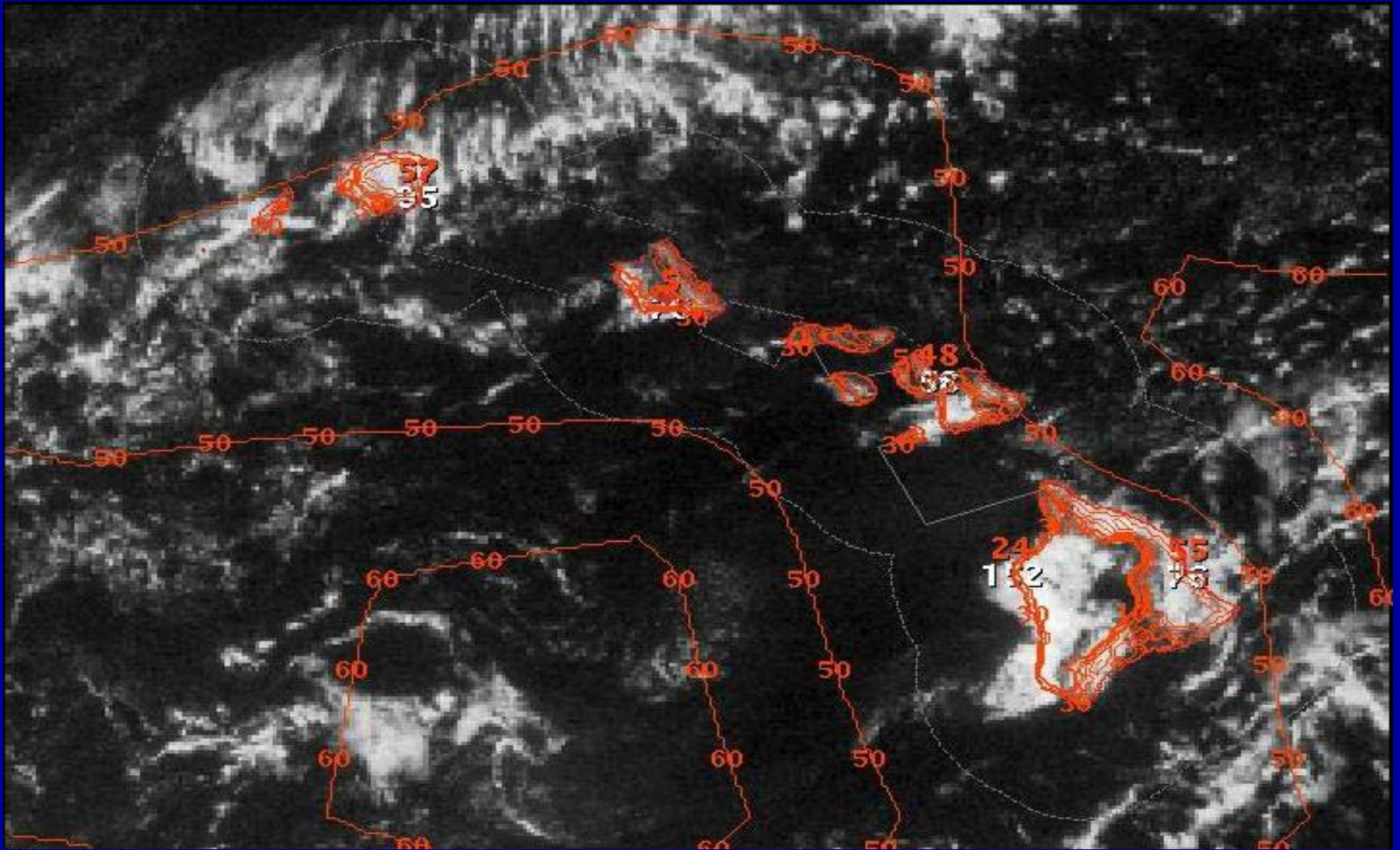
- **Category One: Impacts on an Individual Forecast Desk**
 - *Analysis of Record*
 - *The Interface with GFE*
- **Category Two: Distribution of Duties within the NWS**
 - *Roles of National Centers and WFOs*
 - *Collaboration Between WFOs*
 - *Roles of Humans and NWP*
- **Category Three: Characteristics of the Digital Forecast Database**
 - *The Limits of Predictability*
 - *Spatial Resolution*
 - *Area and Point Forecasts*
 - *Temporal Resolution*
 - *The Probabilistic Component*
- **Category Four: Needs of the Customer**
 - *Access to the Digital Database*
 - *Collaboration Between the NWS and the Customer*
 - *Updated Forecasts*

Benefits of Satellite Data in GFE



- *IR imagery with pixel counts > 80 . Currently GFE does not assign "temperature" to the IR pixel count...it's just the raw 0-255 value.*

Benefits of Satellite Data in GFE



- *Visible imagery with the corresponding Sky Cover forecast grid overlain.*

Updated Roadmap

- New prioritized list of action topics:
 - *Analysis of Record*
 - *Digital Services forecast process*
 - *Climatology*
 - *Downscaling (long-term solutions)*
 - *Uncertainty and probabilistic information*
- Short term actions (next 2-3 months)
 - *Verification (prioritize tasks in NVIWT Verification Plan)*
 - *Input to 10-102 (declaring elements official)*

ISST and You

- Contact any ISST member with your IFPS ideas and concerns
- ISST Forum Teleconference
 - *Lines available for all Region*
 - *ISST discusses current activities and S&T committee briefing highlights*
 - *Provides a forum for your feedback*

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Closing Comments

- ISST is a formally recognized and active team addressing science related issues with regards to IFPS/GFE
 - *A formal conduit between field personnel and NWSH*
- ISST efforts have already resulted in significant positive changes related to IFPS/GFE at the WFO level
- The team is championed by Jack Hayes (OST Director)
 - *Tasked ISST to think freely*
 - *Potentially puts items on a fast track*
- You have access to your ISST representative and therefore a method to elevate IFPS/GFE concerns

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